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tion by the Total Solar Eclipse of August 30, 1905," by C. Nordmann; "Note on the Present Position of the Earth's Magnetic Axis derived from Declination Data alone," by W. van Bemmelen; "What is the Earth's Magnetic Axis and its Secular Motion?" by L. A. Bauer; "Sketch of Life and Work of Roald Amundsen"; Notes: "Progress Magnetic Survey Pacific Ocean" [illustrated], "Magnetic Work in Canada, Mexico and Central America," "Personalia"; "Recent Papers in Atmospheric Electricity by Lüdeling, Lutz, Bendorff, Wood and Campbell, and Rudolph," abstracted by P. H. Dike.

#### DISCUSSION AND CORRESPONDENCE

##### THE ADMINISTRATION OF THE U. S. GEOLOGICAL SURVEY

TO THE EDITOR OF SCIENCE: May I ask for space in your columns for the enclosed letters, which seem to me to be of sufficient general interest to warrant their publication?

Very truly yours,

W. S. TANGIER SMITH

LOS GATOS, CALIFORNIA,  
July 26, 1907

RENO, NEV., June 1, 1907.

TO THE DIRECTOR

U. S. GEOLOGICAL SURVEY,  
Washington, D. C.

*Sir:* I hereby tender my resignation as assistant geologist on the United States Geological Survey.

This action was fully determined upon over four years ago, but was delayed, at first, until I should have finished the work upon which I was then engaged, and, later, as a measure of self-protection while my report of that work was in the hands of the editorial staff. The reasons for my resignation now are the same which determined my original decision to leave the survey, having been merely strengthened by my experience in the interval. Aside from some personal considerations (which are not essential to the present statement), these reasons all have to do with the character and management of the organization as I have known it.

Not to enter into details, I merely wish to record here my protest not only against the prejudiced and arbitrary methods of the geologist in charge of geology, and the commercial spirit which has

grown up under his administration, but also, and chiefly, against the bureaucratic policy inaugurated before that administration and under it developed to such an extent that, in my opinion, it calls for protest from every self-respecting scientist who comes in contact with the organization. This policy is based on the assumption that any persons who hold positions of administrative authority on the survey constitute, *ipso facto*, an infallible scientific tribunal, whose function it is to pass judgment on the work of all other scientists who may be their official subordinates, and to suppress all heresies. As opposed to this assumption, I desire here to reaffirm what I have repeatedly declared in my communications and correspondence with officials of the survey—my conviction of the inalienable right of every scientist to the free expression of his own opinion, and the individual responsibility for his own work, no matter what the auspices under which the work is done, or opinions published.

Very respectfully,

(Signed) W. S. TANGIER SMITH

DEPARTMENT OF THE INTERIOR,  
UNITED STATES GEOLOGICAL SURVEY,  
WASHINGTON, D. C., June 11, 1907.

DR. W. S. TANGIER SMITH,  
Reno, Nevada.

*Sir:* I have forwarded your resignation to the Secretary of the Interior and have recommended its acceptance.

I regret that you feel that a protest is necessary against the administration of this bureau. I believe that the misunderstanding on the part of yourself and other geologists who have presented similar protests comes from the fact that you fail to see that administrative authority carries responsibility. Thus it is that in the matter of publication it is not so much the desire of the administrative officers of the survey to constitute themselves into a scientific tribunal as to be true to their official oaths and administer the survey with due regard for the letter and spirit of the congressional enactments which provide for the continuance of this work. You and I as individual scientists may have personal opinions regarding scientific work, but as long as we are members of a government organization we must conform to the purpose of the appropriation under which our work is done. In short, when we become members of an organization which pays for our work, we surrender a certain part of the "inalienable right,"

as you term it, to the free expression of our own opinion.

Very respectfully,  
(Signed) GEO. OTIS SMITH,  
Director

LOS GATOS, CAL., July 17, 1907.

DR. GEO. OTIS SMITH,  
Director.

U. S. Geological Survey,  
Washington, D. C.

Sir: I am in receipt of your letter of June 11 acknowledging my resignation from the survey, and referring to the protest accompanying it. I had intended to write to you to assure you that nothing in that protest referred to you personally; but, from your last letter, I am sorry to learn that your attitude in the matter is apparently hopelessly opposed to mine.

You mention, somewhat vaguely, "administrative responsibility," "official oaths" and "congressional enactments." Now, in my conception, the supreme responsibility of the scientist is to discover the truth and to tell it, in accordance with the clearest vision vouchsafed him; and this responsibility can not be superseded by the demands of any administrative position nor abrogated by any official oath. As for the "letter and spirit of the congressional enactments," if these should ever happen to come into conflict with scientific truth (which does not seem to me a very probable contingency, so long as congress and the Geological Survey confine themselves to the accepted limits of their respective fields of work), I would venture to suggest that congressional enactments are more easily changed than the facts of the universe, and that it is not necessary, in the interest of the former, to suppress or falsify even an individual conception of the latter.

But you say that in joining the survey the individual surrenders a part of the "inalienable right" of the scientist. Here, apparently, is the crucial point of the whole discussion. If this were generally accepted as a basic principle of the survey, it could not long support the claim of being a scientific organization, for no scientist with the highest conception of his calling would ever voluntarily accept such conditions of service; and the organization would speedily become, what your principle would logically make it, an artificial structure of red tape, reared by "administrative responsibility" (which easily becomes a synonym for autocratic privilege) on the foundation of "congressional enactments," and inspired by noth-

ing higher than the ambition to secure more appropriations. In contrast to this bureaucratic conception, let me quote President Eliot's words with reference to scientific investigators: "They must set their own standards of excellence; for society can not supply men capable of supervising, regulating or stimulating them. . . . The scientific investigator must be a law unto himself. The utmost that governments or universities can do for him is to provide suitable facilities and conditions for his work, and to watch for results."

Since your letter was written in your official capacity, I suppose that you will not object to its being published, together with mine, as a contribution to a discussion of general interest to the scientists of the country.

With sincere regret for the difference of opinion which has developed between us, I am

Very respectfully,  
(Signed) W. S. TANGIER SMITH

#### TYPE OF THE GENUS *ASTACUS*

TO THE EDITOR OF SCIENCE: Within the last decade, a good deal of controversy has been engaged in anent the type of the crustacean genus *Astacus*. These differences of opinion have arisen owing to authors having disregarded Degeer 1778 ("Mem. Ins.," VII.), who fixed as type *A. fluviatilis* Fabr. (= *Cancer astacus* Linné).

G. W. KIRKALDY

#### SPECIAL ARTICLES

##### COLOR VARIETIES OF THE RABBIT AND OF OTHER RODENTS; THEIR ORIGIN AND INHERITANCE<sup>1</sup>

IN the issue of SCIENCE for January 25, 1907, I have shown that the agouti, or wild type of coat of the guinea-pig, results from the simultaneous presence of three factors, which are separately heritable unit characters, namely, black pigment, yellow pigment and a factor causing the two pigments to be disposed in bands. In uniformly colored (or self) varieties of the guinea-pig, at least one of these three factors is wanting. If the lacking factor is supplied by a cross with a variety which possesses it, then reversion is obtained, that is a return to the wild type of coat.

It is the purpose of the present note to

<sup>1</sup>Published by permission of the Carnegie Institution of Washington.